

REMARKS

This application contains new claims 35-62. Claims 1-34 in the parent application to this one (US 09/610,705) have been canceled without prejudice. No new matter has been introduced. Favorable consideration of the new claims is respectfully requested.

Claims 35-48, 51-57 and 59-61 are identical in substance to claims 1-14, 21-27 and 30-32 in the parent application, as amended during prosecution. Independent claims 1 and 30 in the parent application were rejected under 35 U.S.C. 102(b) over Liddy et al. (U.S. 6,304,864), while independent claim 21 was rejected under 35 U.S.C. 103(a) over Liddy in view of Wical (U.S. 6,038,560).

Liddy describes a system for retrieving multimedia information from a network using multiple evolving intelligent agents. The system accepts input information defining a user search profile, including a natural language query, media type and starting network addresses. Crawler agents and meta-search agents retrieve documents from the network based on the user profile (col. 3, lines 45-50). An agent server establishes a neural network, based on the query and on subject categories that are derived from the query by a natural language processor, and embeds the neural network in each of the agents (col. 3, line 64 - col. 4, line 3). The agent server periodically adds inputs to the neural network based on selected relevant documents found in the search and retrains the neural network based on these documents (col. 4, lines 20-27). The agents continue to search and evolve in this matter, with respect to the original query, until the process is stopped by the user

(col. 4, line 59).

Claim 35 recites a method for searching a corpus of documents in which a knowledge agent uses information gathered in the course of searching a first query to build a set of reference documents for use in searching a second, substantially different query. In other words, the knowledge agent builds specialization in a given knowledge domain, which it can use and refine over the course of multiple, different queries within the domain. (This feature of the present invention is described in the specification on page 6, line 21, through page 7, line 4, and on page 20, lines 11-21.) As the user performs more and more searches, the knowledge agent becomes increasingly specialized in the domain of interest. There is no inherent limitation on the variety of different queries that may be put to a knowledge agent in a given domain.

Applicant argued in the parent application that Liddy, unlike the present invention, is concerned solely with finding information in response to a particular query. The retraining of Liddy's neural network and the concomitant evolution of her agents are all built around finding ever-more-relevant answers to the same user query. Liddy neither teaches nor suggests that a neural network trained on one query could be used to answer another, substantially different query. Indeed, it is questionable whether such reuse would be practical or even possible.

In response to this argument, the Examiner wrote (on page 10 of the Official Action of December 23, 2002) that "The Neural Network (Abstract of Liddy) is trying to answer any subsequent query." Liddy's abstract, however, refers only to a single query, and makes no mention of

subsequent queries, even when relating to development and refinement of agents over time: "Periodically, the artificial neural network of the first and second agents is expanded and retrained by the agent server in accordance with the selected relevant documents to improve their ability to retrieve documents which may be relevant to *the query*." (Abstract, lines 29-33, emphasis added.) The process of training and evolution of agents that Liddy describes takes place entirely in the course of searching a single query.

This point is actually emphasized by another passage from Liddy (col. 2, line 66, through col. 3, line 4) that was cited by the Examiner in the above-mentioned Official Action: "It is thus desirable to provide a system which allows a user... to retrieve desired information on the WWW from their computer by combining the search capability of Web crawling with the meta-searching of multiple Web search engines using agents which learn and evolve as *the search progresses*" (emphasis added). In other words, the learning and evolution that Liddy's agents undergo takes place in the course of a single search. Notwithstanding the Examiner's assertions, applicant was unable to find any explicit mention or even a clear hint in Liddy of a repeated query. Liddy provides no teaching or suggestion as to how an agent, which evolved in response to a certain query, would be modified or adapted in order to deal with a second query, "which is substantially different from the first query," as required by the claims in the present patent application. Such teaching is provided only by the present patent application.

Thus, applicant respectfully submits that claim 35 is patentable over Liddy. By similar reasoning, claims 51 and 59, which recite apparatus and a computer software

product operating on principles similar to those of claim 35, are believed to be patentable, as well. In view of the patentability of these independent claims, dependent claims 36-48, 52-57, 60 and 61 are also believed to be patentable.

Claims 49, 50, 58 and 62 are identical in substance to claims 15, 17, 28 and 33 in the parent application, including amendments that applicant requested to make to these claims after final rejection. The Examiner refused to enter these amendments on the grounds that the amended claims would require further search. Claims 15, 28 and 33 in the parent application were rejected under 35 U.S.C. 103(a) over Liddy in view of Wical. The amendment made to these claims in the present continuation is believed to clarify the distinction of the present invention over the cited art. The amended claims now include an explicit definition of "lexical affinities," which is based on an exemplary definition of this term in the specification of the present patent application (page 20, lines 7-10): The lexical affinities of a given term comprise other terms that co-occur with the given term in sentences in the reference documents, such that the other terms are separated from the given term in the sentences by no more than a predetermined number of words. This limitation is neither taught nor suggested by the cited art.

In view of the above amendment and remarks, applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. Peter Ludwig", is written over a horizontal line.

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